

Remarks

In the Non Final Office Action, the Examiner rejected claims 1-38 under 35 U.S.C. § 112 second paragraph. More specifically, the Examiner rejected claims 1, 10, 21, 32-35 and 38 as being incomplete for omitting essential elements. The Examiner also rejected claims 6-8 as being incomplete for omitting essential elements. Applicants have amended claims 1-10, 21, and 32-38 for editorial clarity and to better protect the invention. Applicants have also added new claims 39 and 40.

Claims 1, 10, 21, 32-35 and 38

The Examiner rejected claims 1, 10, 21, 32-35 and 38 for essentially reciting a matrix inversion. Applicants have amended claims 1, 10, 21, 32-35 and 38 to remove reference to the matrix inversion. Applicants have further amended these claims to recite the features of forming an orthogonal basis U of the matrix S (i.e., comprising the plurality of steps recited in the original independent claims), generating a diagonal matrix from stored $1/\sigma_{i+1}$ values, generating one or more scalars from the diagonal matrix and from basis vectors of the orthogonal basis U , and applying the one or more scalars to the received signal to project the source of interest. These features allow for the computation of y_{perp} as recited in the specification without performing a matrix inversion. Applicants believe these amendments clarify that for which patent protection is being sought. Applicants further believe that these amendments thereby tend to the Examiner's rejections.

The Examiner also rejected the claims because of the omitted relation of between y_{perp} and y_s . Applicants have removed reference to y_{perp} and y_s and believe the previously mentioned amendments also tend to these rejections. Applicants respectfully request reconsideration and allowance of claims 1, 10, 21, 32-35 and 38.

Claims 6-8

The Examiner rejected claims 6-8 for essentially failing to define a variable σ_i . Applicants have amended claims 6-8 to define the variable σ_i in accordance with the specification. Applicants believe these amendments clarify that for which patent protection is being sought and thereby tend to the Examiner's rejections. Applicants respectfully request reconsideration and allowance of claims 6-8.

Claims 39 and 40

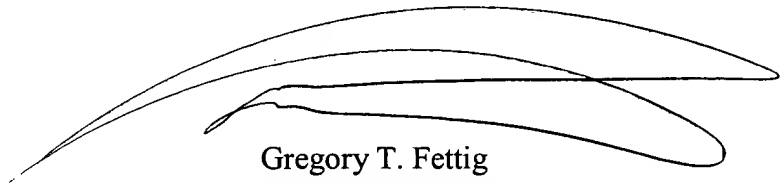
Applicants have added new independent claims 39 and 40 to recite aspects of the invention that vary in scope with respect to claims 1-38. For example, Applicants have claimed features similar to claims 1-38 by essentially reciting the generation of an orthogonal basis matrix from a first matrix, storing values of the orthogonal basis matrix, generating a diagonal matrix from the orthogonal basis matrix, generating scalars from the diagonal matrix and from the orthogonal basis matrix, and applying those scalars to a received signal to project the received signal. Applicants believe claims 39 and 40 are novel and non obvious in view all prior art of record. Accordingly, Applicants believe these claims are in condition for allowance.

Conclusion

Applicants have amended claims 1-10, 21, and 32-35 and 38 for editorial clarity and to better protect the invention. Applicants believe these amendments tend to the Examiner's rejections. Applicants have further amended claims these claims, as well as claims 36 and 37, to correct informalities such as typographical errors and antecedence. Applicant respectfully request reconsideration and allowance of claims 1-38.

Applicants have also added new claims 39 and 40. Applicants believe these new claims to be allowable. A check (No. 2128) in the amount of \$141.00 has been enclosed for the above mentioned petition and for the addition of the two new independent claims. Should any issues remain, the Examiner is encouraged to contact the undersigned agent.

Sincerely,



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